

MR929-675
Application Serial No. 09/859,597
Responsive to Office Action dated 26 April 2005

REMARKS/ARGUMENTS

This case has been carefully reviewed and analyzed in view of the final Office Action dated 26 April 2005. Responsive to that Office Action, Claim 1 is amended for further prosecution with the other pending claims. It is believed that with such amendment of Claim 1, there is a further clarification of its recitations.

In the Office Action, the Examiner rejected Claims 1 and 2 under 35 U.S.C. § 103(a) as being unpatentable over the Bryant et al. reference in view of the Berenz et al. reference. In this regard, the Examiner stated that Bryant et al. fails to disclose a laser driver connected to a microprocessor for receiving pulsed infrared light signals, with the charge coupled sensor synchronized thereto during an infrared illuminating mode. The Examiner, however, cited the passage at column 2, lines 56 – 65 of Berenz et al. for disclosing such feature and concluded that it would have been obvious to one of ordinary skill in the art to have modified Bryant et al.'s system to include this feature.

Also in the Office Action, the Examiner rejected Claim 3 under 35 U.S.C. § 103(a) as being unpatentable over Bryant et al. in view of Berenz et al., further in view of the Tranchita et al. reference. The Examiner cited Tranchita et al. for disclosing the use of an infrared LED in an electronic surveillance camera. Again, the Examiner reasoned that it would have been obvious to one of ordinary skill in the art to have incorporated this feature into the combined system of Bryant et al. and Berenz et al.

As newly-amended independent Claim 1 now more clearly recites, Applicant's digital camera is one which includes among its combination of features measures for

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operating both in “an infrared illuminating mode” and “a flash lamp illuminating mode.”

The camera also includes a charge coupled sensor which receives a reflected light signal from the target through a filter and converts the same to a digital photo signal. As newly-amended independent Claim 1 further clarifies, this “charge coupled sensor is alternatively operable” depending on the particular illuminating mode, so as “to be synchronized to the pulsed series of infrared light signals during the infrared illuminating mode, and to have a sensing period longer than an emitting period of the flashlight signal during the flash lamp illuminating mode.”

The full combination of these and other features now more clearly recited by Applicant’s pending claims is nowhere disclosed by the cited references. As the Examiner readily acknowledged, the primarily-cited Bryant et al. reference fails to disclose any synchronized charge coupled sensor operation during an infrared illuminating mode. What is more, the reference seeks very specifically to realize a simplified apparatus which not only does away with “the need for both a camera and a separate encodement reader,” (column 1; lines 60 – 61), but embodies an “approach [that] is simple and relatively inexpensive,” (column 5; lines 26 – 27; emphasis added). Bryant et al. thus actively and explicitly precludes any features which would be unduly complex and costly.

Yet, the disclosures of Berenz et al. combined by the Examiner with the Bryant et al.’s disclosed apparatus constitute just that type of unduly complex and costly features. The Examiner cites the gated CCD near-infrared sensor approach mentioned (and

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dismissed) in the Background discussion of Berenz et al.'s Specification. The reference itself distinguishes this approach to be satisfactory in performance requirements, but "too expensive for the average consumer," (column 3; lines 1 - 2). Berenz et al. rejects the approach on that very basis, in favor of an approach that significantly departs from the combination of features recited by Applicant's claims. Thus, the combination of prior art made by the Examiner in setting forth the obviousness rejection of claims 1 - 2 is unambiguously discouraged by none other than the cited Bryant et al. and Berenz et al. references themselves.

Beyond this, Berenz et al. prescribes a near-infrared imaging system which seeks improvement in sensitivity and range, specifically by sensing "for an extended period of time," (column 4; line 37). The reference goes on to emphasize the importance of "allowing the lens to integrate on the object 20 for a longer period of time," so as "to collect more of the light photons 27 reflected from the object 20," and thereby "significantly enhance[e] the signal-to-noise ratio of the camera," (column 4; lines 42 - 46). Berenz et al.'s emphasis on "this extended exposure period" is underscored by its choosing to address the potential drawbacks of such an extended exposure period by providing for compensatory image processing means rather than limiting that period in any way. The reference thus teaches actively away from operation in an infrared illuminating mode wherein a "charge coupled sensor is alternatively operable" in infrared and flash lamp illuminating modes, let alone from operation in such manner "to be synchronized to the pulsed series of infrared light signals during ... [that] infrared

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illuminating mode,” while “alternatively” having “a sensing period longer than an emitting period of the flashlight signal during the flash lamp illuminating mode” (as newly-amended independent Claim 1 now more clearly recites).

Bryant et al. likewise fails to teach this type of alternative operation of a charge coupled sensor in infrared and flash lamp illuminating modes. Indeed, Bryant et al. prescribes the correspondingly different use of other external measures, such as “selective alternation by the user” of an image separator 32 or separately selectable filters 36, 38, rather than the CCD’s sensing operation, per se. Bryant et al. in this regard largely obviates the need for the charge coupled sensor to be “alternatively operable to be synchronized,” in the manner claimed, “during the infrared illuminating mode, and to have a sensing period longer than an emitting period during the flash lamp illuminating mode,” as Claim 1 clearly recites.

Given such contrary teachings of the Bryant et al. and Berenz et al. references, the disclosures of the Tranchita et al. reference are found to be quite ineffectual to the present patentability analysis. That reference was merely cited for disclosing the use of an infrared LED, and is directed merely to a surveillance system whose features plainly depart from those now more clearly recited by newly-amended independent Claim 1.

It is respectfully submitted, therefore, that the cited Bryant et al., Berenz et al., and Tranchita et al. references, even when considered together, fail to disclose the unique combination of elements now more clearly recited by Applicant’s pending claims for the purposes and objectives disclosed in the subject Patent Application.

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It is now believed that the subject Patent application is in a condition for allowance, and such action is respectfully requested.

Respectfully submitted,
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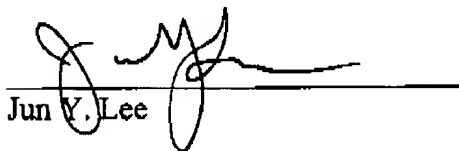
Dated: 7/22/2005

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7/22/2005
Date